

ABSTRACT OF THE DISCLOSURE

A lower electrode of a capacitor element is formed by manufacturing a crown structure while using a first conducting material such as titanium nitride or the like excellent in mechanical strength as a
5 base material and by forming a film of a second conducting material such as ruthenium or the like, which is comparatively difficult to be oxidized, on a surface of the crown structure. First, ruthenium is deposited on a surface of the crown structure by using a sputtering method. Thereafter, the ruthenium (sputtered ruthenium) placed in a peripheral region of the
10 crown structure is removed by etching, and a film of ruthenium is further formed on a surface of the crown structure by using a CVD method while using the sputtered ruthenium as a seed layer.